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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Hitoshi TAKAMURA et al.**

Group Art Unit: **1754**

Serial No.: **10/510,343**

Filed: **October 5, 2004**

Confirmation No.: **8366**

For: **COMPOSITE-TYPE MIXED OXYGEN ION AND ELECTRONIC
CONDUCTOR AND METHOD OF MANUFACTURING THE SAME**

Attorney Docket Number: **042843**

Customer Number: **38834**

REQUEST FOR CORRECTED FILING RECEIPT

Mail Stop: Missing Parts
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Date: April 19, 2005

Sir:

Please supply the undersigned attorney with a corrected filing receipt for the above-identified application. The undersigned also respectfully requests that the Patent and Trademark Office records be amended to reflect the correction.

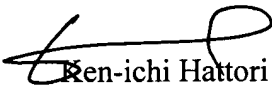
In reviewing the Official Filing Receipt, we noted an error in **the Title**. The title should read --**COMPLEX MIXED CONDUCTOR AND ITS PREPARING METHOD**--. A copy of **WO 03/084894** is enclosed which indicates the correct information. We are also enclosing a copy of the filing receipt with the corrections highlighted.

Request for Corrected Filing Receipt
10/510,343
042843



In the event any fees are required in connection with this paper, please charge Deposit
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Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP


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KH/if
Enclosures: Official Filing Receipt; WO 03/084894



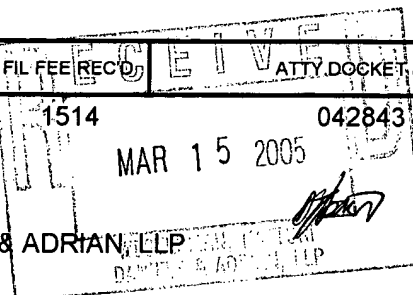
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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/510,343	10/05/2004	1754	1514	042843	9	12	6

38834

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CONFIRMATION NO. 8366

FILING RECEIPT



OC000000015404543

Date Mailed: 03/10/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

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 Masuo Okada, Miyagi, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 38834.

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/JP03/04435 04/08/2003

Foreign Applications

JAPAN 2002-108504 04/10/2002

Projected Publication Date: 06/16/2005

Non-Publication Request: No

Early Publication Request: No

Title

~~Complex~~ Complex mixed conductor and its preparing method

Preliminary Class

502

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(43) 国際公開日
2003年10月16日 (16.10.2003)

PCT

(10) 国際公開番号
WO 03/084894 A1

- (51) 国際特許分類⁷: C04B 35/50, H01B 1/08 (72) 発明者; および
(21) 国際出願番号: PCT/JP03/04435 (75) 発明者/出願人 (米国についてのみ): 高村 仁
(22) 国際出願日: 2003年4月8日 (08.04.2003) (TAKAMURA, Hitoshi) [JP/JP]; 〒981-0952 宮城県 仙台市 青葉区中山 6-25-3 Miyagi (JP). 岡田 益男
(25) 国際出願の言語: 日本語 (74) 代理人: 平山 一幸 (HIRAYAMA, Kazuyuki); 〒160-0022 東京都 新宿区 新宿 2-3-10 新宿御苑ビル
(26) 国際公開の言語: 日本語 6階 Tokyo (JP).
(30) 優先権データ: (81) 指定国 (国内): JP, US.
特願2002-108504 2002年4月10日 (10.04.2002) JP 添付公開書類:
(71) 出願人 (米国を除く全ての指定国について): 科学技術 ー 国際調査報告書
振興事業団 (JAPAN SCIENCE AND TECHNOLOGY CORPORATION) [JP/JP]; 〒332-0012 埼玉県 川口市 2文字コード及び他の略語については、定期発行される
本町 4-1-8 Saitama (JP). 各PCTガゼットの巻頭に掲載されている「コードと略語
のガイダンスノート」を参照。

(54) Title: COMPLEX MIXED CONDUCTOR AND ITS PREPARING METHOD

(54) 発明の名称: 複合体型混合導電体及びその作製方法



GDC (酸素イオン導電相)
GDC (OXYGEN ION CONDUCTIVE PHASE)

(57) Abstract: The oxygen ion conductive phase comprises a gadolinium-added cerium oxide (GDC), and the electron conductive phase comprises a spinel Fe complex oxide (CFO). The grain size of both phases are 1 μm or less. The phases are heterogeneously mixed and form respective conductive networks. The phases have low mutual solid solubility. The phases hardly react with each other, and if a chemical reaction between them is caused, no heterophase disturbing the mix conductivity is produced. The complex mixture conductor has a high oxygen permeability and hardly degrades with time.

(57) 要約: 酸素イオン導電相がガドリニウム添加セリウム酸化物 (GDC) からなり、電子導電相がスピネル型 Fe 複合酸化物 (CFO) からなり、両相の粒径はそれぞれ 1 μm 以下であり、両相が互いに均一に混合し、両相が各々導電ネットワークを形成している。両相は、互いに低い固溶度を有しており、かつ、両相間の化学反応が起こりにくく、また両相間で化学反応が起こっても混合導電性を阻害する異相が生じない。酸素透過性が高く、経時劣化も起こりにくい複合体型混合導電体である。

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